UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,723	03/29/2001	Toivo T. Kodas	41890-01340	4635

7590 01/20/2004

MARSH FISCHMANN & BREYFOGLE LLP
3151 S. Vaughn Way, Suite 411
Aurora, CO 80014

EXAMINER	
WYSZOMIERSKI, GEORGE P	
ART UNIT	PAPER NUMBER
1742	10

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/821,723	HAMPDEN-SMITH ET AL.	
	Examiner	Art Unit	
	George P Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-120* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-120* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 31, 40, 41, 44, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Gupta et al. (U.S. Patent 6,620,351). This is a new ground of rejection.

Gupta discloses making particles of a desired substance (e.g. medicaments) by applying a dispersion including at least two or more materials which react on a surface to form the desired substance. A reactor condition (e.g. vibration of the surface) can be varied so as to produce a differential condition in the final products, such as a difference in size or agglomeration of the particles, and this differential condition can be measured. Thus, all aspects of the claimed invention are held to be fully disclosed by Gupta et al.

3. Claims 1-5, 7-22, 31, 32, 34-42, 44, 46, 64-67, 69-84, 93-95, and 97-112 are rejected under 35 U.S.C. 102(b) as being anticipated by Schultz et al. (U.S. Patent 5,985,356).

Schultz discloses a process which includes depositing a plurality of reacted materials upon specific regions of a substrate and analyzing various properties of the deposited materials. The materials may be a plurality of materials of different compositions. Specific disclosure of various aspects of the claimed invention can be found in the prior art as follows:

a) Claims 3, 32, 66 and 95--See Schultz column 30, lines 31-34.

b) Claims 7, 8, 69, 70, 97 and 98--See Schultz columns 34 and 35.

c) Claims 9, 71 and 99--See Schultz column 20, lines 19-22.

d) Claims 10-12, 37-39, 72-74, and 100-102--See Schultz column 15, line 45 to column 16, line 39.

e) Claims 14, 76 and 104--See Schultz column 9, lines 22-23.

f) Claims 15, 42, 77 and 105--See Schultz Figures 3H, 3I, 5D, 5E, 5F, 5G, 5H, and 5I and their corresponding description in the specification of Schultz.

g) Claims 16, 17, 78, 79, 106 and 107--See Schultz column 17, lines 14-17.

h) Claims 19-22, 81-84, and 108-112--See Schultz columns 6 and 7.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 43, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta et al.

Gupta, described in item no. 2 supra, does not specifically disclose analyzing particles as they exit the reactor, and does not specifically disclose measuring aerodynamic diameter or magnetic properties. However,

a) Gupta column 9, lines 47-50 indicates that online measurements can be taken in the prior art process and that temperature and pressure sensors can be employed "at various locations". Further, it would clearly be seen as beneficial by one of skill in the art to measure

properties as soon as possible, e.g. as soon as reacted particles are produced, in order to minimize the production of materials with unwanted properties. Thus, to perform measuring or sensing at a location where the particles leave the reactor in Gupta would fall within the purview of the process as disclosed therein.

b) Measuring of size, as done by Gupta, would include measuring aerodynamic diameter as presently claimed. Further, example 5 of Gupta produces coated magnetite particles, and one of ordinary skill in the art would be concerned with the magnetic nature of such a material and would therefore desire to measure magnetic properties in such a material.

Consequently, a prima facie case of obviousness is established between the disclosure of Gupta and the presently claimed invention.

6. Claims 6, 23-30, 33, 43, 45, 47-63, 68, 85-92, 96, and 113-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al.

The Schultz process, described supra, does not specify the amount of variance in concentration, temperature or composition as recited in instant claims 6, 33, 68 or 96, is not specific to the making of the particular classes of materials as recited in instant claims 23-27, 47-63, 85-89, and 113-117, the particle size of claims 28-30, 90-92, or 118-120, continuously analyzing particles as they exit a reactor as in claim 43, or measuring the precise property of claims 45 and 62. These differences are not seen as resulting in a patentable distinction between the prior art process and that presently claimed because:

a) The precise amounts of variance in the processing parameters would depend largely upon the properties desired in the final materials. The numerical values as presently claimed would fall within the purview of the variation in reaction parameters as disclosed in Schultz column 30, lines 17-65.

b) The making of the types of materials as recited in the instant claims would fall within the general classes of materials as disclosed in columns 6 and 7 of Schultz.

c) With regard to particle size, because the reactants used and the conditions of reaction may be the same in either the prior art or the claimed invention, one of skill in the art would believe that the particle size of the final products would likewise be the same in either instance, absent evidence to the contrary.

d) One important facet of the Schultz process is that arrays of materials can be screened for various properties, i.e. as disclosed in columns 26-28 of Schultz. It would clearly be seen as beneficial by one of skill in the art to perform this screening as soon as possible, e.g. as soon as reacted particles are produced, in order to minimize the production of materials with unwanted properties.

e) The properties of claims 45 and 62 would fall within the "Morphology" category in Table I of Schultz.

Consequently, a prima facie case of obviousness is established between the disclosure of Schultz et al. and the presently claimed invention.

7. Claims 1-5, 13-15, 18-21, 24-27, 31, 40-43, 64-67, 75-77, 80-83, 86-89, 93-95, 103-105, 108-111, and 114-117 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-85 of U.S. Application Serial No. 09/821,848.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '848 application essentially define certain embodiments of the process as set forth in the instant claims, i.e. preferably an embodiment in which the materials produced and analyzed include a layered linear system comprising polymer and/or

electrocatalyst materials. The steps of the process as defined in the instant claims are performed in the same order and for the same purpose as in the '848 claims. Because practicing the process according to the '848 claims would necessitate practicing the process of the instant claims, no patentable distinction is seen between the two sets of claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not yet been patented.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. In a response filed September 12, 2003, Applicant alleges that the claimed invention can be distinguished from Schultz in that the Schultz process does not produce particulate materials, that any reaction in Schultz occurs on a substrate as opposed to in a reactor as presently claimed, that the prior art process or the variation(s) therein are not performed continuously or on a real-time basis, and that Schultz does not disclose producing electrocatalyst or pharmaceutical compositions. Applicant's arguments have been carefully considered but are not persuasive of patentability because:

a) Schultz, while not specifying a particulate product, is not specific to the size of the materials produced. In at least one example of Schultz (see example (F) in column 37 of Schultz), the individual regions where reaction occurs are 100x100x500 microns in size, and the examiner's position is that material which forms in an area of that size would fall within a dictionary definition of the word "particulate".

b) The examiner is taking a broad view of the term "reactor" as including any location where a chemical reaction occurs, i.e. the instant claims do not state or imply that any closed-system reactor structure is present.

c) With regard to varying a process "continuously" or in "real time", it is unclear what the specific definition of such terms would be. For example, a process which occurs over a total time of 100 seconds could be seen as a 10 step process each step 10 seconds long, a 100 step process each 1 second long, or a 100,000 step process each 1 millisecond long. Clearly, in either the prior art or the claimed invention, if one is forming a material of composition A at one location and a material of composition B at another location, some difference in time occurs between these two forming steps. No clear definition is set forth in the present specification as to how long or short any steps in the inventive process may be yet still fall within the scope of a continuous or real time variance in the process.

d) With regard to electrocatalyst and pharmaceutical compositions, such would fall within the general classes of materials as recited in columns 6-7 of Schultz.

Applicant has further indicated that a Terminal Disclaimer will be submitted if and when appropriate with respect to Applicant's co-pending application. A timely filed disclaimer would, of course, overcome this rejection.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. Effective October 1, 2003, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

GPW
November 25, 2003